WHAT IS CLAIMED IS:

1. A concentric multi-tubular burner for synthesizing glass particles, comprising:

a center port group including:

a raw material gas jet port;

a combustible gas jet port; and

an oxygen gas jet port disposed outside the raw material gas jet port and combustible gas jet port,

wherein an outer wall of said oxygen gas jet port of said center port group more protrudes toward a head of said burner than an inner wall of said oxygen gas jet port, and a protruding length of said outer wall is not shorter than 30 times as large as a gap between an inner surface of the outer wall and an outer surface of the inner wall of said oxygen gas jet port.

2. The burner for synthesizing glass particles according to Claim 1, wherein said center port group including:

a seal gas jet port for jetting inert gas disposed between said combustible gas jet port and oxygen gas jet port.

3. The burner for synthesizing glass particles according to Claim 1, further comprising:

an outside port group including:

a combustible gas jet port; and

an oxygen gas jet port,

wherein the outside port is disposed outside said center port group.

4. The burner for synthesizing glass particles according to Claim 1, wherein said protruding length of said outer wall of said oxygen gas jet port of said center port group is not longer than 9 times as large as the inner diameter of said outer wall.

5. The burner for synthesizing glass particles according to Claim 4, wherein said protruding length of said outer wall of said oxygen gas jet port of said center port group is not longer than 8 times as large as the inner diameter of said outer wall.

6. A method for producing porous glass body by a vapor phase synthesis method in which glass raw material gas undergoes a hydrolytic reaction or an oxidation reaction in flames, said method comprising:

using of the glass particles synthesizing burner defined in Claim 1; and

jetting the oxygen gas from said oxygen gas jet port of said center port group, with a flow rate which is not lower than 1.2 times as high as an average flow rate of gases jetted from ports inner than said oxygen gas jet port, the average flow rate

being total flow rate of inner gases relative to the jet ports sectional area.

7. The porous glass body producing method according to Claim 6, wherein said flow rate of oxygen gas jetted from said oxygen gas jet port of said center port group is not lower than 1.35 times as high as said average flow rate of gases jetted from ports inner than said oxygen gas jet port.

8. The porous glass body producing method according to Claim 6, wherein said flow rate of oxygen gas jetted from said oxygen gas jet port of said center port group is not lower than 3.0 m/s.

9. The porous glass body producing method according to Claim 6, wherein said flow rate of oxygen gas jetted from said oxygen gas jet port of said center port group is not higher than 50 m/s.

10. The porous glass body producing method according to Claim 6, wherein time for all gases inner than said outer wall to pass inside said outer wall is not longer than 50 milliseconds.